LabSentra

Connecting Every Sample. Empowering Every Decision.

USER MANUAL

Laboratory Director

The accountable head of the laboratory, with clinical and managerial authority across every module.

Version 1.0 · November 2026 · labsentra.com

Laboratory information management system

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About this manual

This manual is for the **Laboratory Director** role in LabSentra. It explains the screens you will use and the exact buttons to press, in the order you meet them in a working day.

Screens show only what your role is allowed to do. If a button described here is missing, your laboratory may have configured things differently – ask your administrator.

Your day at a glance

1. Oversee performance, quality and compliance
2. Authorise results and sign out cases
3. Approve documents, purchase orders and policies
4. Hold the management review
5. Govern AI use and the audit trail

Your menu

Menu group	Items you will see
Operations	Overview, Patients, Clinicians & clients, Orders, Referrals, Collection, Transport, Receipt, Samples, Worklists, Results & Verification, Critical results
Output	Reports, Deliveries, Notifications
Workbenches	Haematology, Chemistry, Coagulation, Urinalysis, Immunology & Serology, Parasitology, Microbiology, Molecular, Histopathology, Cytology, Blood Bank
Analytics	Control Tower, Metric explorer, Benchmarks, Dashboards, Scheduled reports, Data exports, Anomalies, Forecasts, Benchmarking, Branches, Lab Twin
AI	AI Copilot
Quality	Quality dashboard, Documents, Nonconformities, Risk register, Audits, EQA, Competency & training, Environment, QC, Sigma metrics, Management review
Inventory	Stock, Lots, Purchase orders, Inventory setup, Movements & stock take, Forecast
Equipment	Equipment register, Due list, Equipment KPIs
Finance	Finance dashboard, Billing queue, Invoices, Receipts, Claims, Debtors, Cost per test, Finance setup
Settings	Administration, Test Catalogue, Integrations, Voice, Audit Log

Signing in for the first time

Your laboratory administrator invites you by e-mail. LabSentra never asks for your password by e-mail or phone.

1. Open the invitation e-mail and follow the link. You arrive at **Welcome to LabSentra**.
2. Enter your full name (optional), a **New password** of at least 12 characters, and **Confirm password**.
3. Select **Activate account**. If the page says the link is invalid or has expired, ask your administrator for a new invitation.

Everyday sign-in

1. Go to **labsentra.com** and choose **Sign in**.
2. Enter your e-mail and password and select **Sign in**. You land on your start page.

Forgotten password

1. On the sign-in page choose **Forgot password?**, enter your e-mail and select **Send reset link**.
2. Open the e-mail, choose **Set a new password**, enter it twice (at least 12 characters) and select **Update password**.

Two-step verification (required for your role)

Your role can sign or view sensitive clinical data, so LabSentra asks for a 6-digit code from an authenticator app (Google Authenticator, Microsoft Authenticator or similar) in addition to your password.

1. The first time, the **Two-step verification** screen shows a QR code. Scan it with your authenticator app (or use **Can't scan? Enter this key:**).
2. Type the 6-digit code from the app and select **Verify**.
3. On later sign-ins you are asked: **Enter the code from your authenticator app.**

> **Note.** You can check or change your authenticator under **Profile → Two-step verification**. The status shows **Verified (AAL2)** once you have entered a code in this session. If you lose your phone, ask your administrator to reset your access.

Finding your way around

Element	What it does
Sidebar	Groups of modules. You only see items your role is allowed to use (see "Your menu"). Long groups can be collapsed.
Branch selector	Choose **All branches** or one branch (shown as *code · name*). Lists, queues and dashboards follow this choice.
Organisation selector	Shown only if you work for more than one laboratory. Changing it resets the branch.
Go to… (Ctrl/Cmd + K)	Command palette: type a module name to jump straight to it.
Scan or type barcode / ID	Scan a specimen, order or patient barcode (or type the number) and press Enter to open it. "Not found" means no match in your branch.
Notifications bell	Unread count and the latest 8 alerts. Click one to open the record; **Mark shown as read** clears them.
Account menu	**Profile** and **Sign out**.

Your profile

- **Personal details** – full name, phone, professional title and registration number. Select **Save changes**. Your title appears beside your e-signature on reports.
- **Change password** – at least 12 characters.

- **My notifications** – mute or unmute categories you can receive (some safety-critical categories cannot be muted).
- **Two-step verification** – add or remove your authenticator.

> **Tip.** Sign out when you leave a shared workstation: Account menu → **Sign out**.

Signatures, reasons and statuses

LabSentra protects patient safety and the audit trail. Some actions need more than a click:

Marked in this manual	What happens on screen
(reason)	You must type why. The reason is stored in the audit trail.
(confirm)	A confirmation dialog asks you to check before continuing.
(e-signature)	The **Electronic signature** dialog asks you to re-enter your **Password** and choose **Sign**. It shows what you are signing and records it in the audit trail. A wrong password shows “Password incorrect”.

- Every change is recorded with who, when, what and why – it cannot be edited or deleted.
- Turnaround (TAT) chips: **red** = breached, **amber** = 30 minutes or less left, **green** = on time.
- Result flags: **H/L** outside the reference interval, **HH/LL** critical, **DELTA** big change from the last result, **AMR** outside the measuring range, **NO REF** no reference interval.
- Colour is never the only signal – every status also has a word or icon.

Patients

Register a patient

1. Open **Patients** and search by name, number or ID first – most patients are already registered.
2. Select **Register patient** and complete the form (name, date of birth, sex at birth, contact details, identifiers).
3. LabSentra checks for duplicates. If a possible match appears, open it instead. Only if you are sure it is a different person, choose **Register anyway** (reason, at least 5 characters).

Update a patient record

- Open the patient and edit details, then **Save changes**. Changing last name, date of birth or sex at birth needs a reason.
- Add national IDs or passport numbers under identifiers with **Add**.
- Record consent with **Record**.
- Patient portal: **Invite** → **Create invitation**, then **Copy** the code for the patient. **Revoke** (reason) stops access.

Merge duplicate records

1. Open the record you want to keep and choose **Merge duplicate into this record**.
2. Select the duplicate and choose **Merge records** (reason, confirm). Orders and results move to the kept record.

3. A mistaken merge can be reversed with **Unmerge** (reason, confirm).

Orders (test requests)

Create an order

1. Open **Orders** → **New order**.
2. Work through the steps with **Next** / **Back**: patient, requesting clinician or client, tests or panels, priority (**Routine**, **Urgent**, **STAT**), fasting status, clinical indication and any requirements.
3. If the same test was ordered recently, LabSentra warns you. Choose **Change tests**, or **Order anyway** (reason, at least 5 characters) if it is clinically needed.
4. Select **Submit order**. Use **Save as draft** if you must finish later (not available in downtime mode).

After submitting

- Open the order to print labels and, if you collect samples, choose **Collect**.
- **Add-on test** → **Add test** (reason) adds a test to an existing order and specimen.
- **Cancel test** or **Cancel order** (reason, confirm).
- **Refer out** sends a test to a referral laboratory.

Order status	Meaning
draft / submitted	Being prepared / accepted by the lab
partially collected / collected	Some or all specimens taken
in progress / partially reported	Testing under way / some results released
completed	All results released
on hold / cancelled	Paused / stopped

Downtime (system or network outage)

1. Before or during an outage, open **Orders** → **Downtime** → **Reserve for {branch}** to reserve accession numbers.
2. **Print label sheet** and use the pre-numbered labels on paper request forms.
3. When LabSentra is back, choose **Back-enter an order** for each paper request, using the reserved numbers.

Clinicians & clients

Keep requesting doctors, clinics and medical-aid funders correct – reports and invoices go to these records.

- Open **Clinicians & clients** and choose **New clinician**, **New client** or **New funder** → **Create …**.
- Edit an entry and **Save changes**. Check e-mail addresses and phone numbers: report delivery uses them.

Specimen collection

1. Open **Collection**. The queue lists STAT requests first, then the longest-waiting patients.
2. Open the patient and complete **two different identity checks** (for example name and date of birth, or ID number) – both are required.

3. Choose **Labels** to print the barcode labels and label the tubes at the bedside.
4. Tick the tubes you collected and select **Record collection of {n} tube(s)**.

> **Important.** Never label tubes in advance or away from the patient. Mislabelled specimens are rejected by the laboratory.

Transport between sites

1. Open **Transport** → **New batch** → **Create batch**.
2. Scan each specimen and **Add** it to the open batch.
3. Select **Dispatch** and record the box temperature. Status becomes **dispatched**.

At the receiving site, open the batch and choose **Receive batch**. If a tube is missing, choose **Receive with {n} missing** – missing specimens are flagged for follow-up.

Specimen receipt

1. Open **Receipt** and scan the specimen barcode (Enter). The specimen is received.
2. Check the label, container, volume and condition. Record haemolysis as none / slight / moderate / gross.
3. Select **Accept**, then **Next specimen**.

Rejecting a specimen

Choose **Reject** → pick the reason code → **Reject specimen**. Some reasons need notes (at least 5 characters). The requester is told that a recollection is needed.

Aliquots

Choose **Aliquot** → **Create aliquots** to split a primary tube. Each aliquot gets its own barcode and stays linked to the parent.

Finding a specimen

Samples lists specimens with status chips (labelled, collected, in transit, received, accepted, rejected, in analysis, stored, referred out, disposed). Open one to see its **Sample Passport** – every hand-over with time and person.

Worklists and result entry

- **Worklists** has tabs **To do**, **Awaiting validation**, **Awaiting authorisation** and **On hold**. Scan a barcode and press Enter to open the item or its bench. Use **Compact density** to fit more rows.
- Open a test to enter results. Enter moves to the next analyte. Select **Save results ({n})**.
- Calculated values and flags are worked out by the system from your laboratory's rules – check any H, L, HH, LL or DELTA flag before you continue.
- **Request repeat** (reason, confirm) sends the test back for re-analysis.
- **Add comment** adds an interpretive comment; **Retract** (reason, confirm) withdraws one.

Department benches

Benches show a result grid for many samples at once. Enter moves to the next cell. Coded shortcuts: **N** = Negative, **1–4** = 1+ to 4+. Cells marked **QC locked** cannot be saved until QC is released.

Bench	What you can do
Clinical Chemistry	**Save results**; **Indices** → **Save indices** (haemolysis, icterus, lipaemia)
Haematology	**Save results**; blood film with differential counter (keys 1–7 count cells, Ctrl/Cmd+Z or Backspace undoes) → **Save blood film**
Coagulation	**Save results**; reagent lots (QC users) **Register** / **Activate** / **Retire**
Immunology & Serology	**Start run** → **Add control** → **Save results** → **Close run** (confirm). Results only save in an open, valid run
Urinalysis	**Save results**; a positive nitrite automatically adds a urine culture
Parasitology	Malaria film → **Save film** (density calculated); stool → Seen / Not seen → **Save**

A sample that turns out unsuitable at the bench can be rejected with **Reject specimen** (reason code, notes, confirm).

Specialist departments

Microbiology

1. Open **Microbiology** and the culture. **Start culture**, then record growth with **Save culture**.
2. **Add isolate** for each organism; **Enter AST** → **Save susceptibilities**. Results show S / I / R / SDD / NI grouped First-line, Restricted and Reserve. Overriding an interpretation needs a reason.
3. Use **Suppress** / **Report** (reason, confirm) for cascade reporting.
4. **Release preliminary report** (e-signature) gives the clinician an early result; **Finalise culture** sends it to Verification.

Molecular

New run → **Create run** (positive control lot and Ct range, plus a negative control or NTC) → **Add control** → **Record run results**. A run with failed controls shows **FAILED QC** and its results cannot be released. **Cancel run** needs a reason.

Histopathology and cytology

- **Accession case** → grossing (**Save grossing**) → **Request stain** → slides move ordered → cut → stained → delivered → reviewed (**Mark {next status}**).
- Write the report and **Save report** (autosaves every 30 seconds), then **Complete for sign-out**.
- Cytology cases may need a rescreen: **Agree** or **Disagree** (notes) → **Record rescreen**.

Pathologists finish with **Sign out** (e-signature). After sign-out, add information only with **Add addendum** → **Sign addendum** (text, confirm, e-signature).

Blood bank

Tabs: Stock, Units, Crossmatch requests, Issues & outcomes, Reactions, Patient profile.

- **Receive units** (Enter adds a row) to book in donated units.

- **Status** → Quarantine / Discard / Return to stock (reason, at least 3 characters).
- **New request** → **Create request** for a crossmatch, then **Sign and record crossmatch** (e-signature). An RhD mismatch needs an override reason.
- **Issue** → **Sign and issue** (e-signature). Needs a compatible crossmatch, two patient identifiers and the person collecting.
- In a life-threatening emergency: **Emergency issue** → **Yes — sign and issue** (reason, confirm, e-signature). It is reviewed afterwards.
- **Record outcome** after transfusion; **Report reaction** immediately if one occurs.

Verification and release

Open **Results & Verification**. Your laboratory decides, per department or test, **who issues the report**. With **scientist sign-off** – the default, and usual practice in most laboratories – one e-signature from a registered scientist technically validates the result and releases it to the report. With **clinical authoriser sign-off**, the scientist validates and a pathologist or clinician authorises (and, in 3-stage laboratories, releases) it. Histopathology and cytology are always signed out by a pathologist. Each result shows its sign-off rule above the action buttons.

Who issues the report	Button (all need confirm + e-signature)	Who signs
Scientist sign-off (default)	**Validate & release ({n}) → Sign — Validate & release**	Scientist, Section Head, Director
Clinical authoriser – stage 1	**Validate selected ({n}) → Sign — Validate selected**	Scientist, Section Head, Director
Clinical authoriser – stage 2	**Authorise & release ({n}) → Sign — Authorise & release**	Scientist, Section Head, Pathologist, Director
Clinical authoriser – stage 3	**Release selected ({n}) → Sign — Release selected**	Scientist, Section Head, Pathologist, Director

1. Select the results to review. The patient context panel shows history, delta checks and clinical details – signing stays disabled until it has loaded.
2. Check flags, deltas and comments. Send anything doubtful back with **Request repeat** from the result.
3. Choose the stage button, confirm, and sign with your password. Under scientist sign-off the result is released and the report issued immediately.

> **Note.** On the report, a scientist-issued result reads **Validated & released by** and the signatory block **Electronically validated and released by** shows your name, title and registration number – keep your professional title and registration number up to date in your profile.

> **Important.** Segregation of duties: the system may stop the same person from performing two stages on one result. Results under a QC lockout cannot be verified.

Amending a released result

1. Open the released result and choose **Amend result**.

2. Enter the corrected value and the reason, then **Sign & amend** (e-signature). **Cancel amendment** abandons it.
3. The report is reissued as amended and recipients are notified; the original stays in the history.

Critical results

A result flagged **HH** or **LL** opens a critical notification with a due time. It escalates automatically if not documented in time.

1. Open **Critical results** (or the result itself) and phone the responsible clinician.
2. Ask them to read the result back to you.
3. Choose **Document call**: recipient name, recipient role and the read-back tick are required; choose the method (phone / in person / portal / SMS / other) and add notes.
4. Save. The notification closes and the call is part of the report history.

> **Important.** Never mark read-back unless the clinician actually repeated the value to you.

Quality control (QC)

Open **QC** (Quality). Tabs: Enter QC, Levey-Jennings, Lockouts, Materials, Lots, Targets, Westgard rules.

1. Run QC before patient samples and after calibration, maintenance or reagent lot change.
2. In **Enter QC**, pick the analyser, material and level, enter the value and select **Record QC** (Enter submits).
3. LabSentra applies the Westgard rules and shows **accepted**, **warning** or **rejected** with the z-score and any rule broken (1-3s, 2-2s, R-4s, 4-1s, 10x reject; 1-2s warns).
4. Check trends on the **Levey-Jennings** chart (mean, ±1/2/3 SD; green, amber, red points).

> **Important.** When QC is rejected and patient locking is on, the “QC rejected” dialog tells you patient results are locked. Bench cells show **QC locked** and verification is blocked until a reviewer releases the lockout.

Set-up (materials, lots, targets and rules) is under the other tabs: **New …** / **Create …** / **Save changes**. The option “Lock patient results when QC is rejected” is set per rule set.

Releasing a QC lockout

1. Open **Lockouts** and choose **Review & release**.
2. Describe the corrective action (at least 10 characters) – what was wrong and what you did.
3. Select **Sign & release** (e-signature). Consider whether patient results since the last good QC need re-testing.

Referrals to other laboratories

1. From the order choose **Refer out**.
2. In **Referrals**, pack and **Dispatch** the specimen.
3. When results return, **Capture results** → **Save results** (needs result-entry rights). **Cancel** needs a reason.

Referrals turn amber after 48 hours and red after 96 hours without results – chase the referral laboratory.

Reports and deliveries

- **Reports** lists preliminary, final, amended and corrected reports. Open one to see every version and the PDF.
- Report PDFs carry a QR code so anyone can check authenticity at labsentra.com/verify.
- **Reissue report** (reason, confirm) creates a new version – for example after a demographic correction.
- **Deliveries** tracks e-mail, SMS, portal and interface delivery: queued, sending, sent, delivered, acknowledged, failed, retrying, dead letter.
- **Retry** failed deliveries after fixing the address; **Acknowledge** (reason, confirm) records manual confirmation.

Billing and payments

Claims, debtors and costs

- **Medical aid claims**: prepare and **Save**, submit, then **Record funder response** → **Record response**. Statuses: draft, submitted, acknowledged, partially paid, paid, rejected, cancelled.
- **Debtors aging** shows outstanding balances by age band; **Statement** → **Create statement invoice**.
- **Cost per test** shows reagent, consumable and labour cost against price; finance managers use **Edit costs for {code}**.
- **Finance setup**: exchange rates, funders and clients. The **Finance** dashboard summarises billing by date and branch.

Equipment

- **Equipment register** lists every instrument with status. **Due list** shows maintenance and calibration due in 30 days (overdue first). **Equipment KPIs** shows uptime by branch.

Inventory

- **Stock** shows each item with chips **Stock-out risk**, **Below reorder** or **OK**.
- **Forecast** (30 / 60 / 90 days) predicts usage from test volumes; **Create purchase order ({n})** turns suggestions into draft POs.

Approving purchase orders

Open the submitted PO → **Approve & sign** (e-signature) or **Reject** (reason). You cannot approve a PO you raised yourself.

Quality management (ISO 15189)

Raising a nonconformity (everyone)

Choose **Raise NC** in the top bar (or Quality → Nonconformities) whenever something goes wrong: a complaint, error, near miss, equipment failure or unmet requirement. Describe what happened and its severity (low / medium / high / critical). Raising issues is expected and protects patients.

Reading controlled documents

When a procedure is issued or revised, the **Quality dashboard** lists it under pending acknowledgements. Open it, read it and choose **I have read and understood v{n}**.

Managing nonconformities and CAPA

1. Open the NC → investigate and **Save investigation** (root cause). **Draft root cause with AI** can suggest a starting point – review it before **Apply to investigation**.
2. **Add CAPA** for each corrective or preventive action, with owner and due date. Owners finish with **Complete** → **Mark complete**.
3. **Verify effectiveness** → **Sign & record** (e-signature; the verifier must differ from the owner).
4. **Close (sign)** → **Sign & close** (e-signature; needs a root cause and completed CAPAs). **Cancel NC** needs a reason.

Statuses: open → investigating → CAPA in progress → pending closure → closed (or cancelled).

Documents

Draft → **Submit for approval** → **Approve & sign** → **Sign & approve** (e-signature). You cannot approve your own document. **Reject** and **Retire** need a reason.

Audits, EQA, risks and review

- **Audits**: **Plan audit** → **Add finding** (can raise an NC) → **Move to {status}**: planned → in progress → report issued → closed. An audit cannot close while its NCs are open.
- **EQA**: **New scheme** → **New round** → **Submit results** → **Record evaluation**.
- **Risk register**: **New risk** scored as likelihood × severity; open / mitigating / accepted / closed.
- **Management review**: **Generate pack** collects KPIs, NCs, audits, EQA and risks for the review meeting; **Print / Save as PDF**.

Competency & training

Open **Competency & training**. Record an assessment with **Sign & record** (e-signature); add or edit training records. Status shows current, expiring or expired. Expired competency can block a person from entering or signing results for that test.

Analytics and AI

- **Overview** / **Control Tower**: live volumes, pending verification, TAT breached and at risk, criticals, by department and branch. Refreshes every 60 seconds; **Full screen** for a wall display.
- **Metric explorer**: pick a metric, filter, **View records**, **Export CSV** or **Save to dashboard**.
- **Dashboards**: **New dashboard** → **Add tile** → **Save layout**.
- **Scheduled reports**: **New schedule** sends a report automatically; **Run now** for an instant copy.
- **Forecasts** are statistical projections of volume; **Benchmarks** compare against targets; **Data exports** → **Download CSV**.
- **Anomalies**: unusual patterns in volumes, TAT or results. **Explain with AI**, then **Acknowledge**, **Re-open** or **Dismiss** (reason).
- **AI Copilot**: ask questions about your lab's operations in plain language and choose **Ask**.

> **Note.** All AI output is labelled “AI-generated — requires professional review”. Rate it **Helpful** / **Not helpful**; for commentary choose **Adopt** or **Reject** (reason). AI never releases results.

Lab Twin simulates staffing, analyser and workload changes so you can compare scenarios before you make them.

Administration

Users and roles

1. **Administration → Users → Invite user**: e-mail, name, role and optional branch → **Send invitation**.
2. **Assign** adds another role; **Revoke role** (reason) removes one.
3. **Deactivate** (reason) the day someone leaves; **Reactivate** if they return.

- **Roles** lists system and custom roles with their permissions (read-only).
- **Competency privileges**: **Grant privilege → Grant** lets a person perform specific tests; **Revoke** (reason).

Notification rules decide who receives each alert category per branch.

AI tab: switch AI features on or off, set limits and review usage and evaluation. If AI is switched off, AI buttons are hidden for everyone.

Test catalogue

- **Test Catalogue**: edit tests, panels, prices and specimen requirements; **Install** tests from the standard library.
- Reference ranges and critical limits are versioned: add or supersede, never overwrite. **Retire** needs a reason and confirmation.
- Units: change unit or **Reset** (reason, confirm); conversions can be deactivated.

Integrations

- **Instruments**: **New instrument** → configure → promote through Not configured → Configured → Tested — sandbox → Validated (validation report reference) → Live (change ticket). **Rotate key** for gateway keys.
- **Messages**: inspect analyser and HL7 traffic; **Replay** (confirm) failed messages.
- **Developer**: **Create API key** and **Create webhook** for other systems. Secrets are shown once – **Copy** and **I've saved it**.

Audit log

- **Audit Log** shows every action: who, when, what changed, the reason and the before/after state. Filter by date, user, record type or action.
- **Verify integrity** checks the tamper-evident hash chain: “Chain intact — {n} events verified”, or the sequence where it is broken (report this immediately).

Practising in the free demo

- A free demo lab contains synthetic patients at every stage. The yellow bar shows the days left.
- Use **View as** (“Try the app as…”) to switch to your role and practise exactly what you will see.

- In the demo, printing, PDFs and branding are removed, and SMS, e-mail, claims, mobile money and portal invites are not really sent.
- Same-person checks are relaxed so one person can play every role. In your live lab they apply in full.

Getting help

- Your first contact is your laboratory manager or system administrator – they can reset access, change your role and fix configuration.
- If something looks wrong in a result or report, do not work around it: raise a nonconformity (**Raise NC** in the top bar) so it is investigated.
- Product support and training: **labsentra.com/contact**.

> **Note.** This manual describes LabSentra as configured by default. Your laboratory may have switched some features off, added custom roles or changed who issues reports (scientist or clinical authoriser) – your administrator can confirm.